** Graphic** **Design Occupations**

**Labor Market Information Report**

**Foothill College**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

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# Recommendation

Based on all available data, there appears to be an undersupply of Graphic Design workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara County.) There is a projected annual gap of about 2,337 students in the Bay region and 598 students in the Silicon Valley Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 1030.00 - Graphic Art and Design in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Foothill College and in the region.

# Introduction

This report profiles Graphic Design Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Foothill College.

|  |
| --- |
| * **Graphic Designers (SOC 27-1024):** Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.
 |
| Entry-Level Educational Requirement: Bachelor's degree |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 29% |
| * **Web Developers (SOC 15-1134)**: Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content. Excludes “Multimedia Artists and Animators” (27-1014).
 |
| Entry-Level Educational Requirement: Associate's *degree* |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 25*%* |

# Occupational Demand

**Table 1. Employment Outlook for Graphic Design Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation  | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 25% Hourly Wage | Median Hourly Wage |
| Graphic Designers |  13,340  |  13,771  | 431 | 3% |  6,714  |  1,343  | $20.32 | $29.96 |
| Web Developers |  10,785  |  12,579  | 1,794 | 17% |  5,764  |  1,153  | $27.66 | $42.99 |
| **Total** |  **24,125**  |  **26,350**  | **2,225** | **9%** |  **12,478**  |  **2,496**  | **$23.60** | **$35.78** |

*Source: EMSI 2019.3*

**Bay Region** includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

**Table 2. Employment Outlook for Graphic Design Occupations in Silicon Valley Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation  | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 25% Hourly Wage | Median Hourly Wage |
| Graphic Designers |  2,620  |  2,771  | 151 | 6% |  1,391  |  278  | $20.10 | $29.89 |
| Web Developers |  3,323  |  3,963  | 640 | 19% |  1,870  |  374  | $29.12 | $41.76 |
| **TOTAL** |  **5,943**  |  **6,735**  | **791** | **13%** |  **3,261**  |  **652**  | **$25.14** | **$36.53** |

*Source: EMSI 2019.3*

**Silicon Valley Sub-Region** includes Santa Clara County

### Job Postings in Bay Region and Silicon Valley Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (December 2018 - November 2019)**

| Occupation | Bay Region | Silicon Valley |
| --- | --- | --- |
|  Web Developers | 28,798 | 12,422 |
|  Graphic Designers | 4,640 | 1,308 |
|  **Total** | 33,438 | 13,730 |

*Source: Burning Glass*

**Table 4a. Top Job Titles for Graphic Design Occupations for latest 12 months (December 2018 - November 2019) Bay Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Bay | Common Title | Bay |
| User Experience (UX) Designer | 3,007 | Java Developer | 469 |
| User Interface (UI) Developer | 2,213 | Senior Backend Engineer | 430 |
| Front End Developer | 2,136 | Engineer | 399 |
| Graphic Designer | 1,965 | Web Engineer | 357 |
| Web Developer | 1,891 | Ruby on Rails Developer | 327 |
| Software Development Engineer | 1,337 | Web Designer | 306 |
| Visual Designer | 1,157 | PHP Developer | 306 |
| User Interface (UX)/User Experience (UX) Designer | 1,142 | Developer | 293 |
| Front End Engineer | 685 | Front End Web Developer | 261 |
| User Interface (UI) Designer | 619 | Production Artist | 244 |
| Senior Engineer | 611 | Web Producer | 228 |
| Ux Researcher | 577 | Javascript Developer | 212 |
| Senior Front End Engineer | 535 | Frontend Engineer | 212 |
| Backend Engineer | 474 | Senior UX Researcher | 211 |

**Table 4.b Top Job Titles for Graphic Design Occupations for latest 12 months (December 2018 - November 2019) Silicon Valley Sub-Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Silicon Valley | Common Title | Silicon Valley |
| User Experience (UX) Designer | 1,277 | Senior Engineer | 175 |
| User Interface (UI) Developer | 1,238 | Web Engineer | 171 |
| Front End Developer | 1,061 | Ruby on Rails Developer | 168 |
| Web Developer | 748 | Developer | 153 |
| Software Development Engineer | 558 | Senior Front End Engineer | 141 |
| Graphic Designer | 478 | Front End Web Developer | 115 |
| User Interface (UX)/User Experience (UX) Designer | 455 | Javascript Developer | 110 |
| User Interface (UI) Designer | 389 | Senior UI Engineer | 105 |
| Visual Designer | 323 | UI Engineer | 98 |
| Java Developer | 297 | Python Developer | 97 |
| Front End Engineer | 289 | Senior Backend Engineer | 93 |
| Backend Engineer | 224 | PHP Developer | 92 |
| Engineer | 223 | Backend Developer | 90 |
| UX Researcher | 187 | Web Applications Developer | 88 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Graphic Design Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2018) | Jobs in Industry (2022) | % Change (2018-22) | % in Industry (2018) |
| Internet Publishing and Broadcasting and Web Search Portals (519130) | 3,239 | 4,270 | 32% | 14% |
| Custom Computer Programming Services (541511) | 2,789 | 3,187 | 14% | 12% |
| Graphic Design Services (541430) | 2,329 | 2,123 | -9% | 9% |
| Interior Design Services (541410) | 1,983 | 2,131 | 7% | 8% |
| Computer Systems Design Services (541512) | 1,570 | 1,721 | 10% | 7% |
| Software Publishers (511210) | 668 | 838 | 25% | 3% |
| Corporate, Subsidiary, and Regional Managing Offices (551114) | 539 | 571 | 6% | 2% |
| Electronic Shopping and Mail-Order Houses (454110) | 516 | 605 | 17% | 2% |
| Advertising Agencies (541810) | 476 | 506 | 6% | 2% |
| Data Processing, Hosting, and Related Services (518210) | 468 | 620 | 32% | 2% |
| Other Specialized Design Services (541490) | 450 | 502 | 12% | 2% |
| Other Computer Related Services (541519) | 439 | 507 | 15% | 2% |
| Industrial Design Services (541420) | 410 | 422 | 3% | 2% |
| Commercial Printing (except Screen and Books) (323111) | 372 | 300 | -19% | 1% |
| Administrative Management and General Management Consulting Services (541611) | 341 | 408 | 20% | 1% |
| Other Scientific and Technical Consulting Services (541690) | 237 | 215 | -9% | 1% |
| Public Relations Agencies (541820) | 236 | 238 | 1% | 1% |

*Source: EMSI 2019.3*

**Table 6. Top Employers Posting Graphic Design Occupations in Bay Region and Silicon Valley Sub-Region (December 2018 - November 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | Silicon Valley |
| Apple Inc. | 289 | Splunk | 66 | Apple Inc. | 274 |
| Google Inc. | 186 | Salesforce | 66 | Cisco Systems Incorporated | 152 |
| Amazon | 185 | Xoriant Incorporated | 64 | Google Inc. | 132 |
| Cisco Systems Incorporated | 180 | Systems Integration Solutions | 60 | IBM | 92 |
| Facebook | 159 | Vmware Incorporated | 57 | Paypal | 76 |
| Scoop Technologies | 125 | Bayone Solutions | 57 | Systems Integration Solutions | 60 |
| IBM | 109 | Coinbase | 56 | Amazon | 59 |
| Williams-Sonoma | 101 | Uber | 55 | Vmware Incorporated | 57 |
| Walmart / Sam's | 97 | Jobot | 51 | Osi Engineering | 52 |
| Adobe Systems | 87 | Workday, Inc | 49 | Xoriant Incorporated | 45 |
| Paypal | 81 | eBay | 48 | Intuit | 44 |
| JP Morgan Chase Company | 80 | Redolent, Inc | 47 | Gorilla Logic | 44 |
| Oracle | 79 | Ascent Technology Services | 47 | eBay | 43 |
| SAP | 74 | Samsung America, Inc. | 46 | SAP | 43 |
| Osi Engineering | 74 | Intelliswift Software | 46 | Walmart / Sam's | 42 |
| Splunk, Inc | 70 | Servicenow | 45 | Nsys Design Systems | 40 |
| NTT Data | 69 | Intuit | 45 | Servicenow | 39 |

*Source: Burning Glass*

# Educational Supply

There are 12 community colleges in the Bay Region issuing 159 awards on average annually (last 3 years) on TOP 1030.00 - Graphic Art and Design. There are three colleges in the Silicon Valley Sub-Region issuing 54 awards on average annually (last 3 years) on this TOP code.

**Table 7. Awards on TOP 1030.00 - Graphic Art and Design in Bay Region**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | Associates | Certificate 18+ units | Certificate Low unit | Total |
| Chabot College  | East Bay |   |  |  1 |  1  |
| City College of San Francisco  | Mid-Peninsula |  6  |  33  |  |  39  |
| De Anza College  | Silicon Valley |  11  |  4  |  9  |  24  |
| Diablo Valley College  | East Bay |  4  |   |  |  4  |
| Foothill College  | Silicon Valley |  14  |  3  |  1  |  18  |
| Laney College  | East Bay |  6  |  2  |  |  8  |
| Los Medanos College  | East Bay |  10  |  1  |  |  11  |
| Mission College  | Silicon Valley |  8  |  4  |  |  12  |
| Monterey Peninsula College  | Santa Cruz-Monterey |  6  |  3  |  |  9  |
| Napa Valley College  | North Bay |  2  |  |  |  2  |
| Ohlone College  | East Bay |  2  |  1  |  |  3  |
| Santa Rosa Junior College  | North Bay |  5  |  9  |  14  |  28  |
| **Total Bay Region** |  **74** |  **60**  |  **25**  |  **159**  |
| **Total Silicon Valley Sub-Region** |  **33**  |  **11**  |  **10**  |  **54**  |

# *Source: Data Mart*

Note: The annual average for awards is 2015-16 to 2017-18.

# Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 2,496 annual openings for the Graphic Design occupational cluster and 159 annual (3-year average) awards for an annual undersupply of 2,337 students. In the Silicon Valley Sub-Region, there is also a gap with 652 annual openings and 54 annual (3-year average) awards for an annual undersupply of 598 students.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 1030.00 - Graphic Art and Design**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay (All CTE Programs) | Foothill College (All CTE Programs) | State (1030.00) | Bay (1030.00) | Silicon Valley (1030.00) | Foothill College (1030.00) |
| % Employed Four Quarters After Exit | 74% | 77% | 61% | 63% | 64% | 62% |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $15,301 | $6,001 | $8,934 | $9,775 | $11,739 |
| Median % Change in Earnings | 46% | 82% | 58% | 43% | 46% | 46% |
| % of Students Earning a Living Wage | 63% | 76% | 39% | 47% | 55% | 58% |

*Source: Launchboard Pipeline (version available on 12/23/19)*

# Skills, Certifications and Education

**Table 9. Top Skills for Graphic Design Occupations in Bay Region (December 2018 - November 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| JavaScript | 13,621 | Python | 3,577 | Unit Testing | 2,427 |
| Adobe Photoshop | 6,133 | CSS | 3,555 | Project Management | 2,192 |
| Java | 6,108 | Adobe Illustrator | 3,500 | Typesetting | 2,116 |
| HTML5 | 5,341 | UX Wireframes | 3,437 | E-Commerce | 2,093 |
| React Javascript | 5,286 | SQL | 3,368 | Object-Oriented Analysis and Design (OOAD) | 2,091 |
| Web Application Development | 5,284 | Adobe Acrobat | 3,254 | Syntactically Awesome Style Sheets (SASS) | 2,061 |
| Web Development | 5,081 | Web Site Design | 3,179 | MySQL | 2,000 |
| Software Engineering | 4,724 | Adobe Creative Suite | 3,178 | Product Development | 1,912 |
| AngularJS | 4,303 | Git | 3,145 | AJAX | 1,903 |
| Graphic Design | 4,161 | Prototyping | 3,065 | Agile Development | 1,877 |
| Adobe Indesign | 4,151 | jQuery | 2,968 | Human Computer Interaction | 1,836 |
| Software Development | 4,146 | Node.js | 2,924 | Hypertext Preprocessor (PHP) | 1,803 |
| Visual Design | 4,126 | User Research | 2,897 | Scrum | 1,802 |
| Front-end Development | 4,119 | Product Management | 2,775 | Process Design | 1,785 |
| User Interface (UI) Design | 3,602 | Interaction Design | 2,774 | Cross-browser | 1,740 |

*Source: Burning Glass*

**Table 10. Certifications for Graphic Design Occupations in Bay Region (December 2018 - November 2019)**

Note: 98% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

|  |  |  |  |
| --- | --- | --- | --- |
| Certification | Postings | Certification | Postings |
| Security Clearance | 187 | Certified Novell Administrator | 9 |
| Driver's License | 69 | SANS/GIAC Certification | 8 |
| Project Management Certification | 53 | First Aid CPR AED | 8 |
| IT Infrastructure Library (ITIL) Certification | 23 | Certified Scrum Professional (CSP) | 8 |
| Project Management Professional (PMP) | 22 | Adobe Photoshop Certificate | 8 |
| MBE Certified | 20 | Microsoft Certified Solutions Developer (MCSD) | 7 |
| CompTIA Security+ | 16 | Certified Salesforce Platform Developer I | 7 |
| Graphic Design Certification | 13 | Certified Salesforce Administrator | 7 |
| Food Handler Certification | 11 | ITIL Certification | 6 |
| Certified Graphic Designer | 11 | CompTIA Linux+ | 6 |
| Certified Information Systems Security Professional (CISSP) | 10 | Certified Usability Analyst | 6 |
| Automation Certification | 10 | Certified ScrumMaster (CSM) | 6 |

*Source: Burning Glass*

**Table 11. Education Requirements for Graphic Design Occupations in Bay Region**

Note: 52% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

|  |  |  |
| --- | --- | --- |
| Education (minimum advertised) | Latest 12 Mos. Postings | Percent 12 Mos. Postings |
| High school or vocational training | 330 | 2% |
| Associate Degree | 194 | 1% |
| Bachelor’s Degree or Higher | 14,550 | 97% |

*Source: Burning Glass*

# Methodology

Occupations for this report were identified by use of skills listed in O\*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCO Data Mart.

# Sources

O\*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard [www.calpassplus.org/Launchboard/](http://www.calpassplus.org/Launchboard/)

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

Chancellor’s Office MIS system

# Contacts

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